AMENDMENTS TO THE CLAIMS

A detailed listing of all claims that are, or were, in the present application, irrespective of whether the claim(s) remains under examination in the application are presented below. The claims are presented in ascending order and each includes one status identifier. Those claims not cancelled or withdrawn but amended by the current amendment utilize the following notations for amendment: 1. deleted matter is shown by strikethrough for six or more characters and double brackets for five or less characters; and 2. added matter is shown by underlining.

1. (Currently Amended) A method of responding to an under voltage event in an electrical delivery system that provides power to an electrical load, the method comprising the steps of:

sampling a primary voltage source at regular time intervals thereby generating a series of voltage readings;

comparing the voltage readings to an under voltage trigger threshold;

detecting an under voltage condition and initializing an under voltage in-response cycle that controls the electrical load when the voltage readings are less than or equal to the under voltage trigger threshold for a predefined under voltage time period;

storing a plurality of load restore counter values in memory before disengaging the load from the primary voltage source when the voltage readings decrease to below a voltage-power fail level, wherein the voltage-power fail level is less than the under voltage trigger threshold; and

initializing a restore response after the voltage level rises above a restore value and is maintained above the restore value for an under voltage[-] out_time period.

2. (Original) The method of claim 1, after the step of storing the counter values, further comprising the step of generating a brownout signal when the voltage readings remain below the voltage power fail level.

3. (Original) The method of claim 2, further comprising the step of entering a power fail state after voltage readings decrease below the voltage-power fail level and a power fail hysteresis level.

4. (Original) The method of claim 1, wherein the restore response comprises the step of restoring all loads powered by the electrical delivery system.

5. (Original) The method of claim 1, before the step of initializing the restore response, further comprising the step of starting a cold load pickup control and initiating a counter adapted to track an under voltage response time.

6. (Original) The method of claim 5, after expiration of the under voltage response time, further comprising the step of controlling the load during an under voltage in-response time period.

7. (Original) The method of claim 6, after expiration of the under voltage in-response time period, further comprising the step of restoring the load randomly during an under voltage out-response time period.

8. (Original) The method of claim 1, further comprising the step of detecting an under frequency condition and initializing the line under frequency (LUF) response when a counter is incremented to a counter trigger level, wherein the counter trigger level is indicative of an under frequency event.

9. (Currently Amended) A system for responding to an under voltage event in an electrical delivery system that provides power to an electrical load, the system comprising:

means for sampling a primary voltage source at regular time intervals thereby generating a series of voltage readings;

means for comparing the voltage readings to an under voltage trigger threshold;

means for detecting an under voltage condition and initializing an under voltage in-response cycle that controls the electrical load when the voltage readings are less than or equal to the under voltage trigger threshold for a predefined under voltage time period;

means for storing a plurality of load restore counter values in memory before disengaging the load from the primary voltage source when the voltage readings decrease to below a voltage-power fail level which is below the under voltage trigger threshold; and

means for initializing a restore response after the voltage level rises above a restore value and is maintained above the restore value for an under voltage-out time period.

10. (Original) The system of claim 9, further comprising a wireless transmitter adapted to transmit disengage and disengage commands to the electrical load that is connected to the storage means.

11. (Original) A load control receiver with under voltage protection comprising:

a transformer adapted to be electrically connected between a primary voltage source having a predefined voltage level and a load ;

a line under voltage (LUV) detection and measurement module electrically connected to the transformer and adapted to detect a line under voltage condition of the primary voltage source via the transformer;

a microcontroller connected to the LUV detection and measurement module and adapted to send a command to disengage and engage an electrical load as a function of a measured voltage from the primary voltage source over a predefined period of time, wherein the measured voltage is compared to a predefined voltage threshold; and

a load switch connected to the microcontroller and adapted to respond to a command from the microcontroller to disengage and engage the electrical load connected thereto from the voltage source.

12. (Original) The load control receiver of claim 11, further comprising a bridge rectifier circuit and a level shift and protection circuit connected between the transformer and the microcontroller.

13. (Original) The load control receiver of claim 12, a memory arrangement connected to the microcontroller adapted to store under voltage threshold values and under voltage time periods corresponding to the under voltage threshold values, wherein the microcontroller is adapted to access the threshold values and time periods in determining whether the primary voltage source is in an under voltage condition.

14. (Original) The load control receiver of claim 11, further comprising a radio frequency transmitter connected to the microcontroller and adapted to transmit the disengage/engage commands to the load switch .

15. (Original) A disturbance response system connected to a line voltage source comprising:

a microcontroller;

a memory arrangement connected to the microcontroller and adapted to store a plurality of under voltage threshold values and under voltage time periods;,

line voltage detection and measurement means connected between the micro-controller and the line voltage source for inputting a signal representative of the magnitude of the line voltage to the micro controller, and

a load switch connected to the microcontroller that is adapted to respond to a command from the microcontroller to either remove a load from the line voltage source or restore the load to the line voltage source.

16. (Original) The system of claim 15, wherein the microcontroller is comprised of a first comparator arrangement adapted to compare a measured line voltage level with and under voltage trigger threshold stored in the memory arrangement.

17. (Original) The system of claim 16, wherein the microcontroller is comprised of a second comparator arrangement adapted to compare an under voltage time value stored in the memory arrangement with the duration of the under voltage condition.

18. (Original) The system of claim 17, wherein the microcontroller is comprised of a control response implementation arrangement connected to the first and second comparator arrangements and adapted to implement a predefined set of instructions in the event the under voltage threshold and the under voltage time value are exceeded.

19. (Original) The system of claim 15, wherein the memory arrangement is comprised of a first memory unit that stores the under voltage threshold values and a second memory unit that stores the under voltage time values.

20. (Original) The system of claim 15, further comprising a bridge rectifier circuit and a level shift and protection circuit connected between the transformer and the microcontroller .

21. (Original) The system of claim 15, further comprising a line under frequency detection module connected between the microcontroller and the line voltage source.

22. (Original) The load control receiver of claim 11, further comprising a line under frequency detection module connected between the microcontroller and the line voltage source.